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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,023	10/06/2000	Joseph B. Rowlands	5580-00300	2300

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EXAMINER

HUYNH, KIM T

ART UNIT PAPER NUMBER

2112

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,023

Applicant(s)

ROWLANDS ET AL.

Examiner

Kim T. Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang
(US Patent 6,467,002)

As per claims 1, 9, 22, 24, Yang discloses a first agent configured for coupling to a bus to which a plurality of agents are capable of being coupled, said first agent comprising an arbiter(fig. 1a, 101) coupled to receive a plurality of request signals (col.4, lines 26-44, lines 55-63) and said arbiter is a distributed arbiter included with said first agent, each of said plurality of request signals corresponding to a respective agent of said plurality of agents in which each corresponding respective agent also has a distributed arbiter included therewithin, (col.5, lines 1-37) wherein each of said plurality of request signals is indicative of whether or not the arbiter of said respective agent is arbitrating for said bus (col.6, lines 19-65) and wherein said arbiter of said first agent is coupled to receive an agent identifier transmitted on said bus as part of a transaction, said agent identifier identifying a second agent using said bus, and wherein said arbiter of said first agent is configured to determine if said first agent wins an

arbitration for said bus request signals and said agent identifier. (col.6, lines 26-65)

As per claim 17, Yang discloses method comprising:

- maintaining a state indicative of (i) which of said plurality of agents are higher priority than said first agent are higher priority than said first agent for said arbitration;(col.5, lines 15-37), (ii) which of said plurality of agents are lower priority than said first agent for said arbitration. (col.7, lines 31-44)
- receiving an agent identifier indicative of a second agent using said bus, said agent identifier transmitted on said bus as part of a transaction; (col.5, lines 15-37)
- updating said state responsive to said agent identifier. (col.5, lines 15-37)

As per claims 2, 10 Yang discloses arbiter comprises one or more registers configured to store a state indicative of:

- which of said plurality of agents are higher priority than said first agent are higher priority than said first agent for said arbitration; (col.5, lines 15-37)
- which of said plurality of agents are lower priority than said first agent for said arbitration. (col.7,lines 31-44)

As per claims 3, 11 Yang discloses arbiter further includes a circuit configured to generate a grant signal to said first agent responsive to said plurality of request

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signals and said state, said grant signal indicative of whether or not said first agent wins said arbitration. (col.6, lines 26-65)

As per claims 4, 12, 26, Yang discloses circuit is further responsive to said agent identifier to generate said grant signal. (col.6, lines 26-65)

As per claims 5, 13, 23, Yang discloses arbiter further comprises a circuit configured to update said state responsive to said agent identifier, wherein said circuit is configured to update said state to indicate that said second agent identified by said agent identifier is lower priority than said first agent if said second agent is different than said first agent. (col.5, lines 15-37)

As per claims 6, 14, 25 Yang discloses circuit is further configured to update said state to indicate that each of said plurality of agents is higher priority than said first agent responsive to said first agent winning said arbitration. (col.7, lines 31-44)

As per claims 7, 15, 27 Yang discloses bus is split transaction bus, and wherein said arbiter is configured to arbitrate for an address portion of said bus, and wherein said agent identifier is portion of a transaction identifier for said transaction. (col.5, lines 15-37)

As per claims 8, 16, 28, 29-30, Yang discloses bus is a split transaction bus and wherein said arbiter is configured to arbitrate for a data portion of said bus and wherein said agent identifier is separate from a transaction identifier for said transaction. (col.5, lines 15-37)

As per claim 18, Yang discloses updating comprises updating said state to indicate that said second agent is lower priority than said first agent if said second agent is different from said first agent. (col.7, lines 31-44)

As per claim 19, Yang discloses method further comprising :

- receiving a plurality of request signals, each of said plurality of request signals corresponding to respective agent of said plurality of agents and indicative of whether or not said respective agent is arbitrating for said bus; (col.6, lines 26-65)
- determining if said first agent wins said arbitration responsive to said state and said plurality of request signals. (col.6, lines 26-65)

As per claim 20, Yang discloses method determining is further responsive to said agent identifier. (col.5, lines 15-37)

As per claim 21, Yang discloses method further comprising updating said state to indicate that each of said plurality of agents is higher priority than said first agent if said first agent wins said arbitration. (col.6, lines 26-65)

As per claim 31, Yang discloses a method comprising:

- Receiving a plurality of request signals, each of said plurality of request signals corresponding to a distributed arbiter of a respective agent of a plurality of agents configured to couple to a bus, wherein each of said plurality of request signal is indicative of whether or not the arbiter of said respective agent is arbitrating for said bus; (col.5, lines 15-37), (col.6, lines 19-65)

- Receiving an agent identifier transmitted on said bus as part of a transaction, said agent identifier identifying a second agent using said bus; and (col.5, lines 15-37)
- Determining if a first agent wins an arbitration for said bus responsive to said plurality of request signals and said agent identifier. (col.5, lines 15-37), (col.6, lines 26-65)

As per claim 32, Yang discloses a carrier medium comprising a data base which is operated upon by a program executable on a computer system, the program operating on the database to perform a portion of a process to fabricate an integrated circuit including circuitry described by the database, the circuitry described in the database including a first agent configured for coupling to a bus to which a plurality of agents are capable of being coupled, said first agent comprising a distributed arbiter coupled to receive a plurality of request signal, (col.4, lines 26-44, 55-63) each of said plurality of request signals corresponding to a respective agent of said plurality of agents, (col.5, lines 15-37) each having its distributed arbiter included therewith, wherein each of said plurality of request signals is indicative of whether or not said respective agent is arbitrating for said bus, (col.6, lines 19-65) and wherein said arbiter is coupled to receive an agent identifier transmitted on said bus as part of a transaction, said agent identifier identifying a second agent using said bus, and wherein said arbiter is configured to determine if said first agent wins an arbitration for said bus responsive to said plurality of request signals and said agent identifier. (col.6, lines 26-65)

As per claim 33, Yang discloses wherein said arbiter comprises one or more registers configured to store a state indicative of : (i) which of said plurality of agents are higher priority than said first agent for said arbitrations; (col.5, lines 15-37) and (ii) which of said plurality of agents are lower priority than said first agent for said arbitration. (col.7, lines 31-44)

As per claim 34, Yang discloses wherein said arbiter further includes a circuit configured to generate a grant signal to said first agent responsive to said plurality of request signals and said state, said grant signal indicative of whether or not said first agent wins said arbitration. (col.6, lines 26-65)

As per claim 35, Yang discloses wherein said circuit is further responsive to said agent identifier to generate said grant signal. (col.6, lines 26-65)

As per claim 36, Yang discloses wherein said arbiter further comprises a circuit configured to update said state responsive to said agent identifier, wherein said circuit is configured to update said state to indicate that said second agent identified by said agent identifier is lower priority than said first agent if said second agent is different than said first agent. (col.5, lines 15-37)

As per claim 37, Yang discloses wherein said circuit is further configured to update said state to indicate that each of said plurality of agents is higher priority than said first agent responsive to said first agent winning said arbitration. (col.7, lines 31-44)

As per claim 38, Yang discloses wherein said bus is a split transaction bus, and wherein said arbiter is configured to arbitrate for an address portion of said bus,

and wherein said agent identifier is a portion of a transaction identifier for said transaction. (col.5, lines 15-37)

As per claim 39, Yang discloses wherein said bus is a split transaction bus, and wherein said arbiter is configured to arbitrate for a data portion of said bus, and wherein said agent identifier is separate from a transaction identifier for said transaction. (col.5, lines 15-37)

As per claim 40, Yang discloses a carrier medium comprising a database which is operated upon by a program executable on a computer system, the program operating on the database to perform a portion of a process to fabricate an integrated circuit including circuitry described by the database, the circuitry described in the database including an arbiter comprising:

- One or more register of a distributed arbiter configured to store a state indicate of: (i) which of a plurality of agents coupled to a bus are higher priority than a first agent for an arbitration, (col.5, lines 15-37) and (ii) which of said plurality of agents are lower priority than said first agent for said arbitration; and (col.7, lines 31-44)
- A first circuit coupled to receive an agent identifier indicative of a second agent using said bus, said agent identifier transmitted on said bus as part of a transaction from a distributed arbiter of said second agent, wherein said first circuit is configured to update said state responsive to said agent identifier. (col.5, lines 15-37), (col.6, lines 19-65)

As per claim 41, Yang discloses wherein said first circuit is configured to update said state to indicate that said second agent is lower priority than said first agent if said second agent is different from said first agent. (col.5, lines 15-37)

As per claim 42, Yang discloses wherein said arbiter further comprises a second circuit coupled to said one or more registers and coupled to receive a plurality of request signals, each of said plurality of request signals corresponding to a respective agent of said plurality of agents and indicative of whether or not said respective agent is arbitrating for said bus, and wherein said second circuit is configured to determine if said first agent wins said arbitration responsive to said state and said plurality of request signals. (col.6, lines 19-65)

As per claim 43, Yang discloses wherein said first circuit is configured to update said state to indicate that each of said plurality of agents is higher priority than said first agent responsive to said first agent winning said arbitration. (col.5, lines 15-37), (col.7, lines 31-44)

As per claim 44, Yang discloses wherein said second circuit is configured to determine if said first agent wins said arbitration further responsive to said agent identifier. (col.5, lines 15-37)

As per claim 45, Yang discloses wherein said bus is a split transaction bus, and wherein said arbiter is configured to arbitrate for an address portion of said bus. (col.5, lines 15-37)

As per claim 46, Yang discloses wherein said agent identifier is a portion of a transaction identifier for said transaction. (col.5, lines 15-37)

As per claim 47, Yang discloses wherein said bus is a split transaction bus, and wherein said arbiter is configured to arbitrate for a data portion of said bus. (col.5, lines 15-37)

As per claim 48, Yang discloses wherein said agent identifier is separate from a transaction identifier for said transaction. (col.5, lines 15-37)

Response to Amendment

3. Applicant's amendment filed on 11/03/03 have been considered but are persuasive.

In response to applicant's argument that Yang does not disclose a distributed arbiter; the distributed arbiter is included with the agent and/or with respective agents of plurality of agents coupled onto a bus. As Yang notes at col.5, lines 15-37, in figure 1C, arbiter 101 is couple to bus 199 and couple to devices 110,120,130, 140, Yang discloses arbiter is distributing access to each of the devices to gain access of bus whether or not each of device(agent) grant as high or low priority but each of the device will has access. Furthermore, Yang discloses arbitration circuit comprises a detection module coupled to priority assignment and also to devices and adapted to detect service requests issued by the devices and identify those devices issuing the service requests as requesting devices. Arbitration(distribution) is determines the order in the requesting devices is granted access to shared resource. It is clear that Yang is an analogous art and it reads on the breadth of the claimed language, therefore it is properly stated in the rejection of record.

Thus, the prior art teaches the invention as claimed and the amended claims do not distinguish over the prior art as applied.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.*

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.

Kim Huynh

Jan. 15, 2004



Khanh Dang
Primary Examiner